REMARKS

Claims 1-15 have been rejected. Claims 1, 4 and 5 have been amended. Claims 2 and 3 have been canceled. New claim 16 has been added. Claims 1 and 4 to 16 are presently pending in the application. Favorable reconsideration of the application in view of the following remarks is respectfully requested.

Rejection Of Claims 1-4, 6-9 and 11-15 Under 35 U.S.C. §102(b):

Claims 1-4, 6-9 and 11-15 have been rejected under 35 U.S.C. §102(b) as being anticipated by Kitamura et al. (EP 903,246).

The Examiner states that Kitamura et al. disclose an ink jet recording material comprising one or more ink receiving layers on a support (p. 3, lines 43-50), the ink receiving layers including colloidal pigment particles (that may be of colloidal silica and have an average particles size of 10 to 300 nm) and an ultraviolet ray absorber. The Examiner states that the UV absorber is present in an amount of 0.25 to 25 parts by weight per 100 parts of the total amount of pigment (p. 5, lines 22-24). The Examiner further states that the ink receiving layer(s) may also contain an antioxidant which is present in an amount of 1 to 10,000 parts by weight by 100 parts UV absorber (p. 5, lines 53-57) and that the antioxidants may be phenolic or sulfur containing, among others (p. 6, lines 3-44). The Examiner notes that the antioxidants may be used as a water insoluble powder or as an emulsion, have an average particle size of 500 nm or less, and beused in an amount from 0.5 to 25 parts by weight per 100 parts by weight of the pigment. The Examiner further notes that the materials are mixed with binder and other additives (p. 6, line 45 to p. 7, line 23), the binder may be a water-soluble polymer or a latex polymer, and the binder is present in an amount of preferably 5 to 100 parts by solid weight to 100 parts by weight of the pigment. The Examiner states that, using the ratios set forth above, pigment, binder and antioxidant may be present in the amounts set forth by the instant claims.

The Examiner adds that the reference also discloses that dispersants may be present. The Examiner states that it would have been obvious to use known additives such as a dispersant in quantity necessary to properly disperse the materials. The Examiner further indicates, in having studied the specification, that Applicants appear to combine a dispersant with the binder to form

particles with the antioxidant prior to combining with more binder and inorganic pigment. The Examiner states, however, that there is no evidence that this results in an article that is structurally distinct from an article formed from a single emulsion of antioxidant, dispersant, binder and inorganic particles. The Examiner states, consequently, that for purposes of an article claim or a method of use claim including the final ink jet recording medium, these two methods of formation for the recording medium will be treated as equivalent.

The Examiner further states that the prior art discloses the use of either one ink-receiving layer or two such layers.

This rejection is respectfully traversed. Claim 1 has been amended to clarify the invention and distinguish further from the prior art. In particular, claim 1 has been amended to recite that both the image-receiving layer and the base layer, between the support and the image-receiving layer, have inorganic particles and stabilizer particles, which stabilizer particles are free of any organic solvent and comprised greater than about 80% by weight of a water-insoluble antioxidant, and have a mean particle size of greater than about 5 nm. Furthermore, the inorganic particles comprise greater than about 50% by weight of both the image-receiving layer and the base layer. Support for the amendment is to be found on page 4, lines 22 to 28 and in original claim 3. The present base layer is not an image-receiving layer. The image-receiving layer is intended to hold the dye. See page 16 of the present specification wherein it is stated that the image-receiving layer preferably contains a dye-fixing agent. The need is to hold the ink near the coating surface. A base layer is typically used primarily to act as a sump for absorption of the solvent for the ink and is not designed to hold the ink. It is submitted that the skilled artisan would not find it obvious to place the given stabilizer particles in the base layer in addition to the image-receiving layer or layers. As evident by Applicant's examples, the composition of the base layer (page 20) is significantly different from the composition of the image-receiving layer (page 21). Moreover, as stated on pages 21-22, the base layer has a dry thickness of 25 μm whereas the image-receiving layer gave a dry thickness of 8 μm. Clearly, Applicants' base layer is not a second image-receiving layer.

Furthermore with respect to new independent claim 16, the image-receiving layer "consists essentially", for preventing light fade, of stabilizer

particles in an amount of from about 10 mg/m^2 to about 5 g/m^2, the stabilizer particles being as described above and furthermore having a mean particle size of from about 5 nm to 500 nm. In contrast, Kitamura et al. require an ultraviolet ray absorber, but the antioxidant is considered optional. Comparing, in the Kitamura et al. patent, Table 1 (page 16) showing results for image-receiving layers with a UV absorber but no antioxidant (Examples I-1 to I-11) to Table 2 (page 22) showing results for image-receiving layers with both a UV absorber and an antioxidant, it is apparent that the fading rates are somewhat better with the addition of the antioxidant, but that most of the improvement is due to the UV absorber. In contrast, in the present invention, by having the antioxidant in both the image-receiving layer and the base layer, there is a relatively dramatic improvement in fading rates and density loss without any UV absorber. See the present specification for improvements of more than 50% in both Table 1 for ambient light fade, and improvements of around 50% for density loss in both Table 2 and 3. The use in the present invention of stabilizer particles (essentially without UV absorber) in both a base layer and the image-receiving layer, would appear to provide dye fade and dye density improvement that, based on the results in Kitamura et al., is comparable to the use of both stabilizer and UV absorber only in an image receiving layer. Avoiding the amounts of UV absorber used in Kitamura et al. provides a significant advantage, since UV absorbers are somewhat colored species that can degrade and cause discoloration or yellowing.

Rejection Of Claims 1 and 10 Under 35 U.S.C. §103(a):

Claims 1 and 5 [sic? 10] have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kitamura et al. (EP 903246) as applied to claim 1 above, and further in view of Chu et al. (6,440,537).

The Examiner states that Chu et al. teach an ink jet recording medium including core/shell latex particles as instantly claimed. This rejection is traversed for the reasons stated above with respect to claim 1. The addition of the core-shell particles is a secondary feature of the invention and does not relate to the main purpose of the invention which is to prevent light fade or provide increased image density.

Rejection Of Claims 1 and 5 Under 35 U.S.C. §103(a):

Claims 1 and 10 [sic? 5] are rejected under 35 U.S.C. 103(a) as being

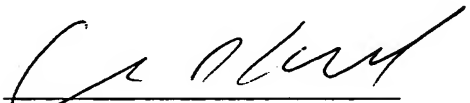
unpatentable over Kitamura et al. (EP 903246) as applied to claim 1 above, and further in view of Becker (US 2002/0071019).

The Examiner states that Becker discloses a recording medium which he wishes to treat with a finishing step in order to embed the image in the medium and to attain a desired degree of gloss (sec [0011]). The Examiner further states that Becker teaches use of a cast-coating method or a method using a calendar roll as alternative finishing steps ([0035]) and appears to use the term cast-coating process as generic to or overlapping with calendaring methods ([0035] and [0045]). With respect to Kitamura et al., the Examiner states that it discloses a casting method in order to achieve a high degree of gloss. The Examiner concludes that, based upon the teachings of the secondary art that casting and calendaring methods are known to be alternative methods of obtaining a high gloss finish, it would have been obvious to one of ordinary skill in this art to calendar rather than cast coat as an equivalent alternate means of obtaining a glossy surface.

This rejection is traversed for the reasons stated above with respect to claim 1. The addition of the calendering is a secondary feature of the invention and does not relate to the main purpose of the invention which is to prevent light fade or provide increased image density.

In view of the foregoing amendments and remarks, reconsideration of this patent application is respectfully requested. A prompt and favorable action by the Examiner is earnestly solicited. Should the Examiner believe any remaining issues may be resolved via a telephone interview, the Examiner is encouraged to contact Applicants' representative at the number below to discuss such issues.

Respectfully submitted,



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